In Re: James R. Eaton, Jr. et al.

Serial No. 10/661,448

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## **Amendments to the Claims**:

This listing of claims replaces all prior versions, and listings, of claims of this application:

## **Listing of Claims:**

- 1-6. (Canceled).
- 7. (Previously presented) A Magnetic Random Access Memory (MRAM) device comprising:

an array of magnetic memory cells arranged in intersecting rows and columns; a plurality of magnetic memory cell selection devices, each of which is coupled to a respective one of the magnetic memory cells in the array to enable selective access to any of the magnetic memory cells during a write operation, wherein a number of the rows included

in the array is limited according to the relation:

$$\eta = \sqrt{\frac{R_m * \varepsilon (2 + K_{DR})}{R_r (1 - \varepsilon)}}$$

where  $R_m$  comprises a resistance of one of the magnetic memory cells,  $\epsilon$  comprises a maximum current non-uniformity of the array during a write operation,  $K_{DR}$  depends on a reverse bias resistance of one of the magnetic memory cell selection devices, and  $R_r$  comprises a resistance of a row or column of the magnetic memory cells.

- 8. (Previously presented) The MRAM according to Claim 7 wherein the maximum current non-uniformity of the array comprises less than about 15 percent.
  - 9. (Canceled).

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- 10. (Previously presented) The MRAM according to Claim 7 wherein the magnetic memory cell selection devices comprises diodes or transistors.
  - 11. (Canceled).
- 12. (Currently amended) A method of sizing a MRAM comprising:

  determining a maximum current non-uniformity for the MRAM array to be provided
  by the array during a write operation wherein a number of rows for inclusion in the array is
  limited according to the relation:

$$\eta = \sqrt{\frac{R_m * \varepsilon (2 + K_{DR})}{R_r (1 - \varepsilon)}}$$

where  $R_m$  comprises a cell resistance of one of magnetic memory cells,  $\varepsilon$  comprises a maximum current non-uniformity of the array during a write operation,  $K_{DR}$  depends on the reverse bias resistance of a magnetic memory cell selection device, and  $R_r$  comprises a resistance of a row or column of the magnetic memory cells.

- 13. (Previously presented) The method according to Claim 12 wherein the maximum current non-uniformity of the array comprises less than about 15 percent.
  - 14. (Canceled).
- 15. (Previously presented) The method according to Claim 12 wherein the magnetic memory cell selection devices comprises diodes or transistors.
  - 16. (Canceled).